Office of the State Auditor
Performance Audit Division

State of Mississippi

PHIL BRYANT
AUDITOR

A Performance Review of the Year 2000 (Y2K) Computer Problem: State and Local Government

August 5,1999

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STATE OF MISSISSIPPI
OFFICE OF THE STATE AUDITOR
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Dear Governor, Legislators, Public Officials, and Citizens:

The Office of the State Auditor has completed **"A Performance Review of the Year 2000 (Y2K) Computer Problem: State and Local Government."**

Since the Y2K issue could have a serious impact on government's ability to provide services and meet financial obligations, it is important that executives, lawmakers and citizens be as informed on the Y2K issue as possible. Computers and information systems have become vital to state and local governments, so the Y2K computer programming challenge is extremely important. Public employees have worked hard to solve these computing problems, but unless this challenge is met, the result could seriously threaten government's ability to function.

The Office of the State Auditor recognized the need to examine the Y2K issue, identify its potential impact on government, review government's response to this challenge, and determine what additional steps should be taken by state and local governments to address Y2K.

It is our hope the information included in this report will be beneficial to the Governor, Legislators, Public Officials, and citizens of the state.

Sincerely,

Phil Bryant
State Auditor

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Purpose of Report

As the year 2000 approaches, the Y2K computer problem is becoming a more important issue to state citizens and state and local government. The State Auditor initiated this performance review to provide the public, Governor, Legislature, state agencies and local governments information to better understand the nature of this problem and the government's status for making its information systems compliant with the century change.

What is the Y2K Problem?

Y2K computer programming deficiencies were created years ago when computer memory require use of a date beyond December 31, 1999, computer programs created with the two-digit year codes will be unable to distinguish between the years 2000 and 1900. (page 3)

What Might Result?

Any potential problems that may occur from the inability of computer programs to distinguish the year are unknown, because this is the first new century since our computer dependency.

Data processing equipment and applications have become vital to the operation of state and local government and the provision of services to its customers. Without proper operation of these systems, most state and local governments would not be able to properly use

What Did the Performance Review Find?

State Government

During the past two years the Department of Information Technology Services (ITS) has periodically surveyed state agencies to determine the degree of their Y2K compliance. As of July 14, 1999, information reported to ITS indicates 29% of state agencies have completed their Y2K compliance. All other state agencies report varying levels of Y2K compliance. Y2K compliance includes the following categories: data; data interfaces; mission-critical hardware systems; and mission-critical software systems.

While state agencies have worked hard in addressing the Y2K problem and continue to do so, there is no assurance that state agencies will not experience information system malfunctions or failures.

Since information systems interface with other information systems, if a state agency's vendor, sub-grantee, other governmental entity, or other entity information system is not Y2K compliant, then the state agency may experience Y2K-related failures even though the state agency's information systems are Y2K compliant. (page 16)

Local Governments

of Y2K awareness in local governmental entities.

The actual percentage of local governments prepared for Y2K is unknown, because no one entity oversees local government Y2K efforts.

The State Auditor's Office conducted a random survey of counties and municipalities to determine the level of Y2K compliance in local governments. This survey revealed, that for those local governmental entities responding to the survey, local government are confident of their Y2K readiness, but several do not have Y2K internal operational contingency plans. (page 26)

Business Impact of Y2K

The state has not calculated the financial and service disruption (business) impact of information system failures, neither by individual state agency nor as the state as a whole. Without knowing the business impact of information system failures, the state will be unaware of the potential disruptions to the public and customers. (page 19)

Recommendations

State Response to Y2K Threat

The Mississippi Military Department (National Guard) would function in their normal role as a state agency member of the SERT, providing additional state resources in responding to a Y2K incident, if needed. (This recommendation provided by the Mississippi Military Department and Mississippi Emergency Management Agency)

State Holiday and Leave Policy

Since the possibility exists that some state agencies may experience major problems with their information systems at the beginning of the year 2000, state agencies may need additional time and all human resources to deal with these problems.

The Governor should consider declaring Monday, January 3, 2000, as a state holiday in addition to or in lieu of Friday, December 31, 1999. A state holiday after January 1st would provide state agencies additional time to address any problems encountered by information management personnel. In addition, the Governor should consider addressing state government leave policy for information management personnel in January 2000. (page 17)

Y2K Internal Operational Contingency Plans

While some state agencies have made limited

able to fulfil their missions, possibly resulting in total inability to provide services.

State agencies should explore alternatives and methods that could be used in the event mission-critical information systems malfunction or fail.

ITS is hosting a free Y2K internal operational contingency planning class on August 26 to assist state agencies. All state agencies should send representatives to this class. (page 20)

State Citizens Should Prepare

Much uncertainty exists about what will happen when the year 2000 arrives. While state government believes its information systems will be ready for the new century, problems may occur.

State citizens should be patient, prepare for Y2K as they would for an ice storm or hurricane, and be prepared to be self-supportive for 7-10 days.

State Legislators and Attorney General Should Address Possible Y2K Civil Litigation

While there is much uncertainty as to the extent of any Y2K failure liability to the state, the potential that this liability could be

preparing for the possibility of civil litigation related to state and local government Y2K compliance.

The Attorney General's Office should prepare to defend the state against Y2K computer-related lawsuits. (page 23)

Y2K Compliance Continuation Programs

With the assistance of ITS state agencies should develop Y2K compliance continuation programs to help ensure state agency information systems will continue to function properly in the year 2000 and beyond. (page 22)

Coordination of State Y2K Effort

Mississippi did not designate a centralized authority to oversee all state government Y2K compliance. Instead, the state addressed its Y2K problem using a decentralized approach making individual state agencies responsible. As a result, state agencies work independently on the Y2K problem with less coordination for overall state government Y2K compliance.

While our review revealed state agencies are working diligently in addressing the Y2K issue, because many interdependencies exist between state agencies thereby relying on one another to fulfil their missions, one agency

agencies having material interdependencies with other agencies and assist these agencies in reviewing other agency relationships to help ensure Y2K compliance for state government. (page 17)

Introduction

Purpose

The Office of the State Auditor, Performance Audit Division (Division) was requested by the Governor to conduct a performance review related to the year 2000 (Y2K) computer programming problems. The purpose of this review was to determine state and local government readiness in addressing the Y2K problem.

The performance review will:

- provide background information on the Y2K issue;
- review state and local government's response to the Y2K challenge;
- determine the extent to which state and local governments have taken necessary steps to correct Y2K programming problems;
- determine what additional steps should be taken by state and local governments to address Y2K;
- analyze state agency Y2K internal operational contingency plans; and
- compare Mississippi's year 2000 efforts with other states.

Scope

The scope of the performance review included state agency and local government Y2K computer activities observed during our fieldwork period, March 1999 through June 1999.

Method

In conducting the review, the Division performed the following procedures:

- analyzed Mississippi statutes and legislative actions;
- researched the Internet;

- reviewed federal, state and other reports;
- interviewed state agency officials;
- surveyed local government officials; and
- analyzed information and data on Y2K.

Performance Review Summary

Over approximately the past two years, the Department of Information Technology Services has accumulated information about the state's Y2K compliance efforts by surveying individual state agencies. Y2K compliance includes the following categories: data interfaces; data; mission-critical hardware systems; and mission-critical software systems. Y2K noncompliance in any of these four categories could cause state agency information systems to malfunction or fail. As of July 14, 1999, information reported to ITS indicates 29% of state agencies have completed their Y2K compliance, while all other state agencies report varying levels of compliance.

Fifty-four percent (54%) of agencies reported complete Y2K compliance for data interfaces; forty-three percent (43%) of agencies reported complete compliance for data; fifty-nine percent (59%) of agencies reported complete compliance for mission-critical hardware systems; and fifty-two percent (52%) of agencies reported complete compliance for mission-critical software systems. However, as stated above, only 29% of state agencies reported completing Y2K compliance in all four categories. See Appendix A for complete ITS survey results on state agency Y2K compliance.

State agencies contacted during this performance review appear to be working diligently to make their information systems Y2K compliant and avoid any service disruptions to the public, customers, employees and vendors. However, since Y2K is a problem never before encountered by the management information system industry and uncertainty exists, there is a possibility of system failures. If system failures occur, potentially the public and state agency customers could experience serious service disruptions.

State management information personnel have worked hard and believe their systems will be Y2K compliant. However, those in the information industry years ago are responsible for the Y2K problem by not providing four-digit date ranges in computer systems. While current information industry personnel are not responsible for creating the problem, nevertheless, self-assessment of Y2K readiness by the same industry that originally created the problem is concerning. In general, the same industry that created the problem is the one responsible for correcting it. Total objectivity on a potentially disruptive and damaging problem as Y2K would be difficult. Since the information system industry created the problem, is correcting the problem, and reports the results of its progress, our reliance on this information is somewhat cautious.

The state did not designate a centralized authority to oversee all state government Y2K compliance. Instead, the state addressed its Y2K problem using a decentralized approach making individual state agencies responsible. As a result, the state has its many agencies working independently on the Y2K problem with no clear plan for overall state government Y2K compliance. While our performance review revealed state agencies working diligently in addressing the Y2K issue, the Division believes the state's decentralized plan was not the best approach because many interdependencies exist between state agencies relying on one another to fulfill their missions.

As with state agencies, local governments are individually responsible for their Y2K compliance. No estimate can be made of the percentage of local governments that will be prepared for Y2K because no one entity oversees local government Y2K efforts.

While some state agencies have made some internal operational contingency plans, many of the agencies reviewed have not planned for the unexpected yet possible event of mission-critical information system failures. In the event mission-critical information systems fail, without internal operational contingency plans state agencies will not be able to fulfil their missions which would result in an inability to provide services.

While most state agencies comply with software vendor updates, some agencies expressed concern whether their personal computer software will be Y2K compliant. These agencies indicated receipt of certifications from a software vendor indicating the product is Y2K compliant if the agency installs certain updates or "patches" in personal computers. But the agencies said they continue to become aware of additional patches, and that each one represents the latest update will make the software product compliant. These state agencies have some concern because the updates continue. Another concern is the installation time for new patches; some agencies with many personal computers scattered in various locations require time to install vendor updates.

Background

What is the Y2K Problem?

The Y2K problem results from computer programming deficiencies in many electronic data processing systems and other equipment containing computer microprocessor chips that may make computer operations malfunction when dates beyond December 31, 1999 are used.

These Y2K computer programming deficiencies were created years ago when computer memory capacity was limited. To save memory space computer programmers took a shortcut when allocating space for dates and reserved only two spaces for the year (99) rather than four spaces (1999). This programming practice continued after the need to conserve computer memory space ended. Computer programmers have been aware of this problem for a number of years.

Unless properly corrected, when the year 2000 arrives, or when data processing systems require use of a date beyond December 31, 1999, computer programs created with the two-digit year codes will be unable to distinguish between the years 2000 and 1900. Any potential problems that may occur from the inability of programs to distinguish the year are unknown, because this is the first new century since our computer dependency. While the exact nature of potential problems is unknown, the result could be failure of data processing systems and equipment with microprocessors or production of incorrect information.

What Could Be Affected?

The types of government computer equipment and resources that may be affected include:

- software computer programs;
- mainframe computer hardware;
- local area computer networks (LAN);
- personal computers (PCs);
- other equipment, devices or controls containing microprocessor chips.

What Might Result?

Data processing equipment and applications have become vital to the operation of state and local government and the provision of services to its customers. Without proper operation of data processing equipment and applications, most state and local governments would not be able to properly use information vital to daily activities. If state and local government equipment and resources are not Y2K compliant, the result could make state and local governments unable:

- to use vital information for daily activities;
- to fully provide services to customers, and other state or local governments; and/or
- to meet financial responsibilities.

What Makes the Y2K Problem So Difficult to Solve?

State and local government have many difficult problems to solve but always seem to rise to the

occasion when required. So, why is the Y2K problem so difficult?

A State of North Carolina, March 1999 performance audit, *Department of Commerce Information Technology Services Year 2000 Project Office*, reports:

> *"The Year 2000 (Y2K) problem poses one of the most significant challenges ever faced by the information technology (IT) industry. This problem is a situation unlike any other encountered by this industry. The IT industry cannot rely on past experiences in projecting how to handle this project. However, this is not solely an information technology problem; rather, it is a management issue. For the Y2K problem to be properly addressed, management must provide effective project leadership."*

The United State Senate, Special Committee on the Year 2000 Technology Problem stated in its report, *Investigating the Impact of the Year 2000 Problem*:

> *"Y2K is about more than the failure of an individual's personal computer or an incorrect date in a spreadsheet. As one examines the multiple layers of systems and technologies that support our everyday lives, the potential Y2K problems increase exponentially. The interdependent nature of technology systems makes the severity of possible disruptions difficult to predict."*

What is the Role of the State Auditor's Office in Addressing Y2K?

The State Auditor's Office has assisted school districts, counties, colleges and universities in the following ways:

- surveyed counties and school districts to determine stages of Y2K compliance and to identify computer hardware and software vendors;
- surveyed county and school district computer hardware and software vendors to determine vendor efforts in making their products Y2K compliant;
- conducted on-site EDP audits of some state agencies, counties, colleges and universities; and
- completed Year 2000 compliance questionnaires for EDP systems of audited school districts and counties.

The State Auditor's Office provided these efforts as assistance to state and local governments. However, the State Auditor's Office limited its Y2K efforts regarding state and local governments

to questioning and surveying about information systems and relying on the responses provided by the governmental entities. State agencies and local governments also have embedded systems or microprocessors that require evaluation for Y2K compliance. Responsibility for Y2K compliance rests with the individual state agencies and local governments. While school districts, counties, colleges and universities may attest to be Y2K compliant, there is no way to be absolutely sure.

Federal Government

How Has the Federal Government Addressed Y2K?

This review also covers the federal government's Y2K preparedness because of the state's interaction with federal agencies.

The United States General Accounting Office (GAO) published a document titled *Year 2000 Computing Crisis: An Assessment Guide* to assist federal agencies in managing the Y2K problem. This guide provides a framework and checklist for assessing the readiness of federal agencies to achieve year 2000 compliance, provides information on the scope of this challenge, and offers a structured approach for reviewing the adequacy of agency planning and management of the Y2K problem. The guide is used by many state agencies to manage their Y2K projects.

The five GAO phases for approaching the year 2000 problems are:

- Awareness — Define the year 2000 problem and gain executive level support and sponsorship. Establish year 2000 program team and develop an overall strategy. Ensure that everyone in the organization is fully aware of the issue.
- Assessment — Assess the year 2000 impact on the enterprise. Identify core business areas and processors, inventory and analyze systems supporting the core business areas, and prioritize their conversion or replacement. Develop contingency plans to handle data exchange issues, lack of data, and bad data. Identify and secure the necessary resources.
- Renovation — Convert, replace, or eliminate selected platforms, applications, databases, and utilities. Modify interfaces.
- Validation — Test, verify, and validate converted or replaced platforms, applications, databases, and utilities. Test the performance, functionality, and integration of converted or replaced platforms, applications, databases, utilities, and interfaces in an operational environment.
- Implementation — Implement converted or replaced platforms, applications, databases, utilities, and interfaces. Implement data exchange contingency plans, if necessary.

From information obtained from federal sources, *ABCNEWS.com (The Associated Press)* reported March 31, 1999:

> *"Nearly all federal agencies met today's deadline for protecting their most critical computer systems from potential Year 2000 computer problems, the government official in charge of the repairs said.*
>
> *John Koskinen, chairman of the President's Council on Year 2000 Conversion, announced that 92 percent of computer systems at the government's 24 largest agencies had been repaired and were 'Y2K compliant.'*
>
> *Koskinen said 13 of the 24 departments now report that their most essential computer systems are 100 percent ready for business beginning Jan. 1. Ten agencies have repaired and tested at least 85 percent of their systems, he said."*

Table 1 shows the level of Y2K compliance by federal agencies at March 31, 1999, as reported by the *President's Council on Year 2000 Conversion*:

Table 1

Federal Agencies and Y2K Compliance
100 Percent:
Department of Education
Department of Housing and Urban Development
Department of Interior
Department of Labor
Department of Veteran's Affairs
Environmental Protection Agency
Federal Emergency Management Agency
General Services Administration
National Science Foundation
Nuclear Regulatory Commission
Office of Personnel Management
Social Security Administration
Small Business Administration

Federal Agencies and Y2K Compliance
95-99 Percent:
National Aeronautics and Space Administration
Department of Energy
Department of Commerce
90-94 Percent:
Department of Justice
Department of Agriculture
Department of the Treasury
Department of Health and Human Services
85-89 Percent:
Department of Defense
Department of State
Department of Transportation
0 Percent:
U.S. Agency for International Development

Source: President's Council on Year 2000 Conversion

In contrast to the report from the *President's Council on Year 2000 Conversion*, Rep. Stephen Horn, R-California, Chairman of the House Subcommittee on Government Management, Information, and Technology stated on June 15, 1999, in part:

> *"We have found that the government's mission-critical systems are 94 percent compliant - up from 79 percent in February. Good progress has been made, but there are still critical systems to fix. The FAA's Air Traffic Control System is not Year-2000 compliant. Nor is the Department of Health and Human Services' Payment Management System ready. Each year, this computer system processes nearly $165 billion in payments and grant programs, such as Medicaid.*
>
> *The concern is that until all of these systems are compliant, government agencies cannot begin their program-wide testing.*
>
> *The Office of Management and Budget has identified 43 federal programs it calls 'high impact' - programs such as Social Security, Medicare, and the nation's Air*

Traffic Control System. Each day, these programs provide critical services to millions of Americans, but only two of them - Social Security and the National Weather Service - say they are ready for January 1, 2000."

State Government

How Did the Legislature Address Y2K?

Mississippi state government responded to the Y2K problem when the Legislature adopted Senate Concurrent Resolution 545 during its 1997 Regular Session. This resolution places the responsibility of state government Y2K compliance on individual state agencies and directs Information Technology Services to act as technical advisor and overseer.

ITS developed a statewide critical systems evaluation by identifying those agencies whose functions are most important to state government. However, the responsibility for identifying critical information systems within agencies of state government rested with the state agencies themselves. ITS has tracked the Y2K compliance efforts of those state agencies identified as critical to state government, and provided technical advice when requested, but responsibility for state agency critical system Y2K compliance remains with the individual agencies.

How Much Did the Legislature Appropriate for Y2K?

According to the Legislative Budget Office, determining the actual amount appropriated by the Legislature to state agencies for Y2K compliance is very difficult because:

- many state agencies were required to use existing appropriation levels to fund their Y2K compliance, so no specific funding was earmarked for this purpose; and

- many state agencies had computer equipment needs anyway, so the acquisition of new computers may have been a necessary state expenditure regardless of the Y2K problem and exact identification of agency costs associated with only the Y2K problem is blurred.

However, the Mississippi Legislature did specifically address emergency situations by appropriating amounts for Y2K efforts by certain agencies. Tables 2 and 3 show amounts recommended by the Legislative Budget Office to the Legislature for emergency Y2K appropriations in the 1999 and 2000 fiscal years, respectively. The Legislative Budget Office pointed out that these amounts are emergency increases in certain agency's total appropriations and do not reflect the total amount appropriated to all agencies for Y2K costs.

Table 2

Legislative Budget Office Recommended Emergency Y2K Appropriations for State Fiscal Year 1999			
	General Fund	**Special Fund**	**Total**
Ethics Commission	$2,450		$2,450
Port of Gulfport		$89,000	89,000
Department of Insurance		73,571	73,571
Employment Security Commission		1,433,616	1,433,616
Veteran's Home Purchase Board		63,468	63,468
Dental Examiner's Board		14,350	14,350
Division of Medicaid	1,500,000	4,500,000	6,000,000
Animal Health Board	32,500		32,500
Bureau of Narcotics	141,500		141,500
Chiropractic Examiners Board		6,000	6,000
Medical Licensure Board		2,000	2,000
Motor Vehicle Commission		15,500	15,500
Nursing Board		23,000	23,000
Real Estate Commission		3,520	3,520
Real Estate Appraiser Board		1,760	1,760
Veterinary Examiners Board		800	800
Total	$1,676,450	$6,226,585	$7,903,035

Source: Legislative Budget Office

Table 3

Legislative Budget Office Recommended Emergency Y2K Appropriations for State Fiscal Year 2000	General Fund	Special Fund	Total
Ethics Commission	$3,375		$3,375
Vocational Rehabilitation	56,041	$207,063	263,104
Vocational Rehabilitation for the Blind	7,185	26,550	33,735
Health Department	929,430		929,430
Real Estate Commission		13,830	13,830
Real Estate Appraiser Board		11,740	11,740
Cosmetology Board		6,700	6,700
Community and Junior Colleges - Support		880,000	880,000
University Medical Center - Consolidated		863,000	863,000
Institutions of Higher Learning - Support		991,609	991,609
Total	$996,031	$3,000,492	$3,996,523

Source: Legislative Budget Office

How Much Have State Agencies Expended on Y2K?

Senate Concurrent Resolution 545, 1997 Regular Session, required state agencies to submit to ITS by August 1, 1997, estimations of Y2K project resource requirements. State agencies responded by estimating a total cost of $19 million for the agencies to adequately address their Y2K needs.

ITS conducted a survey of state agencies to determine the status of computer hardware and software Y2K compliance and the amount expended by state agencies for their compliance efforts. Table 4 shows the results of the survey for state agency costs incurred through July 14, 1999.

For financial/compliance audits of colleges and universities conducted by the State Auditor's Office, the Auditor's Office compiled information on expenditures and estimated expenditures for the Y2K problem. Table 5 shows amounts reported as actual Y2K costs through January 1999 and estimated future Y2K costs for colleges and universities.

Table 4

Y2K Expenditures Reported by Mississippi State Agencies as of July 14, 1999	
Agriculture Aviation Board	$3,700
Animal Health Board	3,000
Archives and History Department	16,000
Arts Commission	2,143
Attorney General Office	200,000
Auditor's Office	200,000
Boswell Regional Center	5,000
Community and Junior Colleges Board	279,275
Dental Examiners Board	50,000
Economic and Community Development Department	640,000
Education Department	80,000
Ellisville State School	2,498
Emergency Management Agency	150,000
Engineers and Land Surveyors	23,800
Ethics Commission	30,000
Educational Television	60,000
Fire Academy	7,000
Forestry Commission	140,000
Gaming Commission	108,000
Grand Gulf Military Monument	3,200
Health Department	1,016,000
Human Services Department	6,700,000
Insurance Department	80,000
Judicial Performance	12,346
Library Commission	100,000
MARIS	500
Medicaid	4,500,000
Medical Licensure Board	6,000
Mississippi State Hospital	250,000
Mississippi Veterinary Diagnostic Lab	16,000
Narcotics Bureau	43,500
Nursing Board	40,000
Nursing Home Administrators Board	25

Y2K Expenditures Reported by Mississippi State Agencies as of July 14, 1999	
Pearl River Basin Development District	5,910
Personnel Board	2,000
Pharmacy Board	7,600
Port Authority at Gulfport	64,184
Public Service Commission	125,000
Real Estate Commission	3,091
Rehabilitation Services Department	1,000,000
Soil and Water Conservation Commission	11,691
South Mississippi Regional Center	30,000
State Aid Road	2,657
State Tax Commission	822,989
Tombigbee River Valley Water Management	10,000
Treasurer's Office	48,000
Veterans Affairs Board	50,000
Veterans Home Purchase Board	79,152
Wildlife, Fisheries and Parks	10,000
Workers' Compensation	50,000
Total	$17,090,261

Source: Information Technology Services

Table 5

Y2K Expenditures and Estimated Expenditures Reported by Colleges and Universities as of January 1999			
College/University	**Actual**	**Est. Additional**	**Total**
Holmes Community College		$17,000	$17,000
Jones County Junior College	$100,500		100,500
Meridian Community College	7,732	26,000	33,732
Mississippi Delta Community College			
Delta State University	350,000	203,500	553,500
Mississippi State University	336,500	514,500	851,000
Mississippi University for Women	518,968	834,107	1,353,075
Mississippi Valley State University	50,000		50,000
University of Mississippi	101,591		101,591

Y2K Expenditures and Estimated Expenditures Reported by Colleges and Universities as of January 1999			
College/University	**Actual**	**Est. Additional**	**Total**
University of Mississippi Medical Center	1,107,890	375,000	1,482,890
University of Southern Mississippi	1,351,245	200,000	1,551,245
Institutions of Higher Learning Board Office	5,000		5,000
Total	$3,929,426	$2,170,107	$6,099,533

Source: State Auditor's Office

Costs of Y2K compliance for local governing authorities (counties, school districts and municipalities) have not been accumulated by any oversight agency and are not readily available for this report.

Which State Agencies Were Visited?

The Division contacted 17 state agencies concerning their Y2K compliance. The Division limited its review to questioning agency management on the status of their Y2K efforts. The Division did not verify or attempt to verify state agency Y2K compliance.

The following 12 mission-critical state agencies were selected: Health Department; Public Employees Retirement System; Public Safety Department; Medicaid Division; Finance and Administration Department; Human Services Department; Mississippi Emergency Management Agency; Corrections Department; Education Department; Transportation Department; Tax Commission; and State Treasury Department.

The following four state agencies were selected because a January 1999 ITS survey indicated these agencies may have been experiencing difficulties in their Y2K compliance projects: Agriculture Aviation Board; Ethics Commission; Narcotics Bureau; and Real Estate Commission.

The Public Service Commission was selected because of its regulatory authority over public utilities.

See Appendix C for summaries of reviews of selected state agency Y2K efforts.

What Did the Performance Review Find?

There is no assurance that state agencies will not experience information system malfunctions or failures as a result of the year 2000 problem.

While state agencies have worked hard in addressing the Y2K problem and continue to do so, there is no assurance that state agencies will not experience information system malfunctions or failures.

Since state and local governments have never been faced with a problem similar to Y2K, the results of government's efforts to address this problem will not be known until the year 2000 arrives. State agencies are testing their information systems, but until the actual date arrives when these systems must interface both internally and externally with other information systems, the assurance these systems will properly function is uncertain.

Since information systems interface with other information systems, if a state agency's vendor, sub-grantee, other government agency, or other entity information system is not Y2K compliant, then the state agency may experience Y2K-related failures even though the state agency's information systems are Y2K compliant.

Since the possibility exists that some state agencies may experience major problems with their information systems at the beginning of the year 2000, state agencies may need additional time and all human resources to address information system glitches at the beginning of the new year.

The Governor should consider declaring Monday, January 3, 2000, as a state holiday in addition to or in lieu of Friday, December 31, 1999. A state holiday after January 1st would provide state agencies additional time to address any problems encountered by information management personnel.

In addition, the Governor should consider addressing state government leave policy for information management personnel in January 2000.

Mississippi did not designate a centralized authority to oversee all state government Y2K compliance. Instead, the state addressed its Y2K problem using a decentralized approach making individual state agencies responsible. As a result, state agencies work independently on the Y2K problem with less coordination for overall state government Y2K compliance. While our review revealed state agencies are working diligently in addressing the Y2K issue, because many interdependencies exist between state agencies thereby relying on one another to fulfill their missions, one agency should have been put in charge of coordinating the effort.

Two years ago, in its 1997 Regular Session, the Mississippi Legislature addressed the approaching Y2K problem by adopting Senate Concurrent Resolution 545. The Legislature placed most Y2K responsibilities on state agencies including:

- assessment of the year 2000 date change impact;
- identification of systems needing modifications;
- determination of equipment needing replacement;
- development of work plans to resolve Y2K problems;
- estimation of costs to complete Y2K project tasks;
- reporting to Information Technology Services Y2K work plans and resource requirements; and
- obtaining necessary funding to carry out Y2K plans.

Additionally, the Legislature placed responsibility on the Department of Information Technology Services to be available to advise state agencies, boards, departments and commissions on methods to help avert any adverse impacts of the date change problem.

Several other states approached the Y2K issue in a different manner than Mississippi. North Carolina was one of these states that used a centralized program management approach by establishing a Y2K project team within its Office of State Controller to oversee the entire state's project.

In North Carolina, the state Y2K project office:

- prioritized systems statewide;
- developed the statewide conversion schedule;
- established the statewide risk management plan; and
- defined the overall statewide conversion approach and milestones.

While North Carolina manages its Y2K project on a statewide basis, each state agency is responsible for handling the conversion of its own systems, similar to Mississippi's method, however with better oversight. While Mississippi did not establish and fund a separate Y2K project oversight office, the Department of Information Technology Services performed many activities to assist state and local governments in their Y2K compliance efforts at no additional cost to the state in terms of personnel resources. See Appendix B for a list of the activities performed by ITS in assisting state and local government.

A decentralized approach to Y2K might be more suitable, if the state's many agencies worked autonomously without interaction and dependency on other agencies of state government. However, in carrying out their missions state agencies do interact and depend on other state agencies. It is this interconnectedness of state government that demands, if one mission-critical state agency is to function in the Y2K environment, then other interconnected agencies must also be able to function when the year 2000 arrives. Due to this interconnectedness nature of state government, state agencies must not only be concerned with their own Y2K compliance, but also with the Y2K compliance of the other state agencies they are dependent upon in carrying out responsibilities.

As directed by the Legislature, the Department of Information Technology Services performed its designated Y2K duties including assisting state agencies when requested. However, the state does not have a centralized authority overseeing all state government Y2K compliance. Due to the interconnectedness nature of state government and the uniqueness of this challenge, the state's approach to a problem of this complexity and magnitude in a decentralized way might have been more efficient by saving the state money spent on the oversight agency, but it does not appear to be as effective in ensuring all agencies are Y2K compliant. The Division believes the state should have pursued the Y2K problem from a centralized perspective, so one agency would have to ensure state mission-critical agencies and systems within these agencies are Y2K compliant. A centralized approach to Y2K would have allowed the state to concentrate on those agencies having interdependencies with other state agencies and helped ensure a more seamless Y2K compliance, rather than individual agencies verifying compliance themselves and relying upon other agencies they have no control over for similar compliance.

The Division recommends the Department of Information Technology Services identify those mission-critical state agencies having material interdependencies with other agencies and for the remainder of calendar 1999 assist these mission-critical agencies in reviewing agency relationships to help ensure Y2K compliance for state government.

The state has not calculated the financial and service disruption (business) impact of information system failures, neither by individual state agency nor as the state as a whole. Without knowing the business impact of information system failures, the state will be unaware of the potential disruptions to the public and customers.

State agencies are working hard to make their information systems Y2K compliant; based on the Division's survey of agencies, agencies have a high degree of confidence in their Y2K compliance. However, the possibility exists that agencies may experience some information system failures, and it is important for the state to know what business impact would occur if agency information systems fail.

The business impact of state agency information system failures would include social and economic losses if state agencies were unable to provide services to customers. While the following three state agencies **are very confident that their mission-critical information systems will properly function** in the year 2000, these selected agencies indicated a mission-critical information system failure could have a major impact on important services:

- The Patient Information Management (PIM) system is a mission-critical information system for the Health Department. According to the agency's Director of Administration and Technical Support, if the PIM system failed it would cause serious problems in the agency's ability to bill for Medicaid and Medicare services greatly affecting its ability to generate revenue for general agency operation. While a PIM

system failure would not cause Health Department clinics to close, it would cause great confusion in their operation because patients would show up and clinic personnel would be unaware of scheduling. Such a failure could also affect the Health Department's ability to fulfil state and federal reporting requirements.

- The Genesis information system is a mission-critical system for the Public Employees Retirement System (PERS). According to PERS Director of Management Information Services (MIS), if the Genesis system failed it would cause problems and delays in the agency's ability to gather information on new retirement system employees and on current employee wages and contributions. However, the MIS Director said PERS could continue issuing checks to retirees, even if the Genesis system failed.

- The Statewide Payroll and Human Resource System (SPAHRS) is a mission-critical information system for the Department of Finance and Administration (DFA) and for every state agency using this system. According to DFA's Mississippi Management Reporting System (MMRS) Administrator, if the SPAHRS information system failed DFA would be unable to complete the state payroll.

While some state agencies have made limited internal operational contingency plans, several state agencies have not planned for the unlikely possibility of mission-critical information systems failure. If mission-critical information system failures do occur, without internal operational contingency plans state agencies will not be able to fulfill their missions, possibly resulting in total inability to provide services. State agencies should explore alternatives and methods that could be used in the event mission-critical information systems malfunction or fail. The Department of Information Technology Services is hosting a free Y2K internal operational contingency planning class on August 26 to assist state agencies. All state agencies should send representatives to this class.

The Division found that some state agencies have made limited internal operational contingency plans in the event mission-critical information systems fail as a result of the year 2000. State agencies interviewed that have made at least some internal operational contingency plans are: Medicaid; Human Services; Corrections; Public Safety; and Education. Several agencies contacted by the Division have no Y2K internal operational contingency plans and their efforts have concentrated on making their systems Y2K compliant: Health; PERS; Finance and Administration; MEMA; Transportation; Tax Commission; and Treasury. State agency Y2K external operational contingency plans responsible for citizen protection were not examined in this review.

Some state agencies consider development of alternative plans nonproductive because the agencies are so dependent on management information systems and would be unable to function without them. Therefore, all the efforts in these agencies are devoted to making information systems Y2K

compliant.

Since state government has never experienced a challenge like the Y2K information system problem and the fact that great uncertainties exist regarding actual compliance and possible malfunctions, the need for state agencies to make alternative plans for their mission-critical systems is evident. In addition to continuation of efforts to ensure mission-critical information systems are Y2K compliant, state agencies should explore alternatives and methods that could be used in the event these systems malfunction or fail.

Medicaid

While Medicaid is confident of its Y2K compliance and does not think its mission-critical systems will fail, the Division has developed a internal operational contingency plan should such an event occur.

If Medicaid systems are down more than one week, its internal operational contingency plan calls for continuance of payments to providers submitting claims at the average rate Medicaid had previously paid such providers. With this plan Medicaid can continue paying its providers, even if its information systems are nonoperational.

Human Services

Human Services is very confident that all its mission-critical systems will be Y2K compliant and anticipates no problems, but it has also developed some internal operational contingency plans in the unlikely event of a failure:

- Human Services has a contract with its Y2K consultant for assistance in the event of system malfunction. DHS information system personnel worked with the Y2K consultant and the agency feels very confident agency staff with consultant assistance can handle any problems that arise.

- If a DHS field office loses electric power, the internal operational contingency plan calls for the affected field office to move to another field office having electric power.

- Food stamps are provided by an outside vendor and DHS will send appropriate data to the vendor by armored truck before the year end.

Human Services has no other internal operational contingency plans for its other functions.

Corrections

Regarding its prison inmate security system, the Department of Corrections has backup generators at each prison location in the event electric power is lost. However, the Department of Corrections Jackson administrative office location has no generator and only a two hour battery backup system, so if a power failure occurs management information systems at both the Jackson administrative office and at each prison will operate for only two hours.

Corrections has no other internal operational contingency plans for its other functions.

Public Safety

The Department of Public Safety is very confident its mission-critical systems are Y2K compliant. However, Public Safety has made some internal operational contingency plans.

If the Crime Lab experiences system failure, it plans to revert to operating by hand, which the Crime Lab indicates is feasible.

Otherwise, Public Safety has no internal operational contingency plans for its other functions. Public Safety's Y2K external operational contingency plans responsible for citizen protection were not examined in this review.

Education

Except for its software updates, Education is very confident of its Y2K compliance. However, Education has made some internal operational contingency plans.

For its Minimum Foundation Program, which distributes approximately $80 million per month to school districts, Education has a internal operational contingency plan. The agency will identify previous allotment amounts for all school districts and establish base allotments. If the bank interface fails, rather than electronically transferring funds to all school districts, Education will revert to simply issuing paper warrants.

At the time of this performance review, Education had no internal operational contingency plans for its Child Nutrition Program Reimbursement Fund.

With the assistance of the Department of Information Technology Services state agencies should develop Y2K compliance continuation programs to help ensure state agency information systems will continue to function properly in the year 2000 and beyond.

When considering the Y2K problem, the first thought probably relates to information systems "looking forward" and processing data dated in the year 2000 and beyond. Efforts to date by state agencies to correct the Y2K problem have mostly centered on the ability of information systems to correctly process data dated 2000 and beyond.

However, once the threshold of the year 2000 has passed, information systems will then have to "look back" and correctly process data with dates in the 1900's. The information management mind set will begin to change to correctly processing data in the 2000's that is dated in the 1900's.

So, even if information systems are correctly adjusted to move from the 1900's to the year 2000, state agencies' concern with information systems and Y2K will continue. Therefore, state agencies should develop Y2K compliance continuation programs to ensure information systems will continue to function properly in the year 2000 and beyond.

Will the State Encounter Any Civil Litigation Regarding Y2K?

Because uncertainty exists as to the extent of Y2K disruptions which could potentially result in overwhelming liability to the state, members of the Legislature should be aware of this problem and consider preparing for the possibility of civil litigation related to state and local government Y2K compliance. The Attorney General's Office should prepare to defend the state against Y2K computer-related lawsuits.

Even with the best efforts of state agencies to address Y2K concerns, there exists the possibility of computer system malfunctions and possible related inability of state agencies to provide services and to properly execute responsibilities. Following this possibility of unprovided services and unfulfilled requirements is the possibility of legal liability to the state.

Much uncertainty exists regarding potential problems that may be caused by the year 2000 computer problem. Some predict relatively small problems, while others think major breakdowns, disruptions and panic could occur. But one thing is almost certain: whether only small Y2K problems develop or large costly disruptions materialize, Y2K-related litigation will occur.

The extent of liability to the state of Mississippi related to the Y2K problem currently cannot be determined and will not be known until after January 2000 and beyond. Potential liability to the state could range from nothing or minimal to extreme or overwhelming to the state's budget.

However, the legal parade to the courtroom on Y2K issues has already begun. The *Chicago Tribune* reported April 14, 1999:

> *"Approximately 80 lawsuits already have been filed on the Y2K issue nationwide, including in state and federal courts in Chicago. They represent the front end of*

what many experts believe could be an explosion of Millennium Bug-related litigation – assuming the technology glitch causes real trouble."

Many state legislatures have or are considering laws that address who can sue whom in the inevitable lawsuits related to Y2K. A March, 1999 performance audit conducted by the State of North Carolina titled *Department of Commerce Information Technology Services Year 2000 Project Office* reports:

"Currently, many other states are considering legislation that offers immunity to the state from liability for Year 2000 related system failures. As of December 1998, Florida, Georgia, Nevada, North Dakota, and Virginia had passed legislation that protects these states from legal action resulting from Year 2000 computer failures. Legislation granting immunity from liability may serve as a protection against lawsuits should systems fail."

The United States Congress is also addressing the issue of Year 2000 liability. On June 30th the Congress passed federal legislation protecting businesses from Y2K lawsuits for 90 days allowing time to correct Y2K problems before lawsuits can be filed. The President has indicated he will sign the legislation.

While there is much uncertainty as to the extent of any Y2K failure liability, the potential that this liability could be overwhelming to the state's financial condition necessitates this issue be addressed. Members of the Legislature should be aware of the potential impact this issue has and consider preparing for the possibility of civil litigation related to state and local government Y2K compliance. The Attorney General's Office should prepare to defend the state against Y2K computer-related lawsuits.

How Will State Banks Be Affected By Y2K?

From information supplied by the Mississippi Department of Banking and Consumer Finance, the *Clarion Ledger* reported in June 1999:

"Nearly all of Mississippi's financial institutions are on track to greet the new millennium in good order, state bank regulators say.

Ninety-nine percent of Mississippi's 82 state-chartered banking institutions are in satisfactory condition, the highest rating. The 1 percent not on schedule is expected to be in compliance by the end of the year, said Ronny Parham, commissioner of the state Department of Banking and Consumer Finance.

National banks are supervised by the federal Office of Comptroller, which estimates that 97 percent of the 2,500 banks it regulates are currently on course. The state doesn't regulate national banks, of which there are 10 in Mississippi. Figures on

those in compliance were not available."

Based on this assessment, it appears most banks will be prepared for the Y2K change, however, there is still the possibility of minor inconveniences due to unforeseen problems.

How Are Other States Addressing the Y2K Problem?

North Carolina's Office of the State Auditor issued a performance audit dated March, 1999, concerning that state's Y2K status titled *Performance Audit: Department of Commerce Information Technology Services Year 2000 Project Office.*

North Carolina contacted 15 other states in a survey and 11 states, including Mississippi, responded. The Division noted several issues in the North Carolina performance audit survey results including:

- Special legislation was passed in eight states regarding the Year 2000 problem. Mississippi is one of three responding states not having special legislation.

- As of March 1999, cost estimates of the year 2000 problem ranged from $15 million in Tennessee to $238.2 million for Texas. Mississippi's cost estimate was $19 million.

- All states responding to the survey except Mississippi require some type of status reporting from the agencies to the year 2000 management/oversight team.

- Six states (Arizona, Arkansas, Kentucky, Maryland, South Carolina, and Texas) require internal operational contingency plans for the mission-critical systems, Alabama requires internal operational contingency plans for all agencies, and Mississippi is the only state that ties its contingency plans to federal requirements.

The North Carolina survey also inquired whether states had established deadlines for the five phases of year 2000 projects recognized by the technology industry: awareness; assessment; renovation; validation; and implementation. Most states responding to the survey have established deadlines for the important phases of conversion, testing and implementation. At the time of this survey, Mississippi had not established deadlines for these Y2K phases.

See Appendix D for a summary of the North Carolina performance audit survey.

Local Governments

How Have Local Governments Addressed Y2K?

The approach to solve the Y2K problem in local governments is the same as state government. Local governments are individually responsible for their Y2K compliance. Through its Y2K mission statement, the Department of Information Technology Services assumed the role of promoter of Y2K awareness in local government entities.

The actual percentage of local governments prepared for Y2K is unknown, because no one entity oversees local government Y2K efforts. However, the Division conducted a survey of counties and municipalities to determine the level of Y2K compliance in local governments. Random surveys were mailed to 15 county governments and 30 municipalities.

County Governments

Of the 15 county governments surveyed, nine or 60% of the counties responded: Alcorn; DeSoto; Forrest; Franklin; Lafayette; Leake; Pearl River; Webster; and Yazoo. There is a higher probability that counties not responding might not be Y2K compliant.

All counties responding indicated Y2K compliance or projected compliance by September 1999 for computer hardware and software. Y2K compliance for telephone systems is projected by all responding counties.

Four counties (DeSoto, Lafayette, Pearl River and Yazoo) indicated no internal operational contingency plans if their computer or software systems fail. Five of the nine responding counties indicated no alternative electric power for at least one county building.

All responding counties indicated Y2K compliance for their sheriff's office and jail, but two counties (DeSoto and Pearl River) indicated no internal operational contingency plans for the sheriff's office and jail.

All responding counties indicated their court system is or will become Y2K compliant before year end, but four responding counties (DeSoto, Lafayette, Pearl River, and Yazoo) indicated no internal operational contingency plans for their court systems.

County responses concerning Y2K costs ranged from unknown amount to $180,000.

Counties that were sent surveys that did not respond are: Hinds; Harrison; Lauderdale; Newton; Oktibbeha; and Scott.

Municipalities

Of the 30 municipal governments surveyed, 16 or 53% of the municipalities responded: Belmont; Brooksville; Cleveland; Forest; Fulton; Goodman; Holly Springs; Horn Lake; Kosciusko; Laurel; Leakesville; Marks; Pascagoula; Philadelphia; Taylorsville; Winona. Those not responding might have a higher probability of Y2K non-compliance.

All municipalities responding indicated Y2K compliance or projected compliance by September 1999 for computer hardware and software. Except for the City of Cleveland, Y2K compliance for telephone systems is projected by all municipalities responding.

Two municipalities (Goodman and Marks) indicated no internal operational contingency plans if computer or software systems fail. All municipalities responding with computerized water systems indicated Y2K compliance, but two municipalities (Forest and Goodman) indicated no internal operational contingency plans for water services.

Seven of the 16 responding municipalities indicated no alternative electric power for at least some municipal buildings. All municipalities responding to the traffic light questions (only 3 responded) indicated Y2K compliance with traffic lights. Three municipalities (Kosciusko, Philadelphia and Winona) indicated no internal operational contingency plans regarding traffic lights.

Municipality responses concerning Y2K costs ranged from no cost to $700,000.

Municipalities that were sent surveys and did not respond are: Clarksdale; Columbus; Decatur; Fayette; Gulfport; Hattiesburg; Indianola; Jackson; Leland; Lumberton; Natchez; New Albany; Raleigh; and Waynesboro.

RECOMMENDATIONS

Recommendations

State Response to Y2K Threat

1. In order to adequately respond to an emergency situation during the December 30 - January 5 time frame, each state agency's Emergency Coordinating Officer assigned to the State Emergency Response Team (SERT) should be placed on standby to allow for a rapid implementation of the Mississippi Comprehensive Emergency Management Plan. The Mississippi Military Department (National Guard) would function in their normal role as a state agency member of the SERT, providing additional state resources in responding to a Y2K incident, if needed. (This recommendation provided by the Mississippi Military Department and Mississippi Emergency Management Agency)

State Holiday and Leave Policy

2. Since the possibility exists that some or many state agencies may experience major problems with their information systems at the beginning of the year 2000, state agencies may need additional time and all human resources to address information systems glitches at the beginning of the new year.

   The Governor should consider declaring Monday, January 3, 2000, as a state holiday in addition to or in lieu of Friday, December 31, 1999. A state holiday after January 1st would provide state agencies additional time to address any problems encountered by management information system personnel.

   In addition, the Governor should consider addressing state government leave policy for information management personnel in January 2000 to ensure that necessary personnel are available to correct any Y2K problems. (page 17)

Y2K Internal Operational Contingency Plans

3. State agencies that have not made Y2K internal operational contingency plans should explore alternatives and methods that could be used in the event mission-critical information systems malfunction or fail. The Department of Information Technology Services is hosting a free Y2K internal operational contingency planning class on August 26 to assist state agencies. All state agencies should send representatives to this class. (page 20)

State Citizens Should Prepare

4. Uncertainty exists about what will happen when the year 2000 arrives. While state government believes its information systems will be ready for the new century, problems may occur.

   State citizens should be patient, prepare for Y2K as they would for an ice storm or hurricane, and be prepared to be self-supportive for 7-10 days.

Legislators and Attorney General Should Address Possible Y2K Civil Litigation

5. While there is much uncertainty as to the extent of any Y2K failure liability to the state, the potential that this liability could be overwhelming to the state's financial condition necessitates this issue be addressed. Many other states have already addressed this issue by considering limits to their Y2K liability. Members of the Legislature should be aware of the potential impact this issue has and consider preparing for the possibility of civil litigation related to state and local government Y2K compliance. The Attorney General's Office should prepare to defend the state against Y2K computer-related lawsuits. (page 23)

State Agency Y2K Compliance Continuation Program

6. Y2K compliance efforts have concentrated on information systems "looking forward" in processing data dated in the year 2000 and beyond, but, once the threshold of the year 2000 has passed, information systems will have to "look back" to data with dates in the 1900's. To date this part of the Y2K problem has not been a major focus.

   With the assistance of the Department of Information Technology Services state agencies should develop Y2K compliance continuation programs to help ensure state agency information systems will continue to function properly in the year 2000 and beyond. (page 22)

Coordination of State Y2K Effort

7. The Mississippi Legislature created a decentralized approach to the state's Y2K problem placing responsibility with individual state agencies to resolve state government Y2K problems.

   In carrying out their missions state agencies interact and depend on other state agencies. This interconnectedness of state agencies demands, if one mission-critical state agency is to function in the Y2K environment, then other interconnected agencies must also be able to

function when the year 2000 arrives.

The Division recommends the Department of Information Technology Services identify those mission-critical state agencies having material interdependencies with other agencies and for the remainder of calendar 1999 assist these agencies in reviewing other agency relationships to help ensure Y2K compliance for state government. (page 17)

APPENDIX A

Appendix A

	Agency Name	% of Data Interfaces that are Y2K Compliant	% of Agency Data that is Y2K Compliant	%of Mission Critical Hardware Y2K Compliant	%of Mission Critical Software Y2K Compliant	Expenditures To-Date	Expenditures Remaining
	Department of Agriculture and Commerce	100%	100%	100%	100%		
x	Agriculture Aviation Board	100%	100%	100%	100%	3,700	402
	Board of Animal Health		75-99%	75-99%	75-99%	3,000	2,000
	Board of Architecture	N/A	100%	100%	100%		
	Department of Archives and History	100%	100%			16,000	
	Arts Commission	100%	75-99%			2,143	
	Office of the Attorney General	N/A	100%			200,000	316,600
x	State Auditor's Office	100%	100%	100%	100%	200,000	100,000
	Banking and Consumer Finance	100%	100%	100%	100%	-	1,000
	Board of Barber Examiners						
x	Boswell Regional Center	75-99%	75-99%	100%	100%	5,000	15,000
	Board for Community and Junior Colleges		75-99%	75-99%	75-99%	279,275	75,000
x	Board of Contractors	N/A	100%	100%	75-99%		
x	Dept of Corrections	100%	75-99%	75-99%	75-99%		
x	Cosmetology Board	N/A	100%	100%	100%		6,700
	Board of Dental Examiners	N/A	100%	100%	100%	50,000	10,000
x	Economic and Community Development	75-99%	75-99%	75-99%	75-99%	640,000	40,000
	Department of Education		75-99%	100%	75-99%	80,000	80,000
x	Ellisville State School	100%	100%	75-99%	75-99%	2,498	
x	Emergency Management Agency	75-99%	75-99%	75-99%	75-99%	150,000	100,000
x	Engineers and Land Surveyors	N/A	75-99%	100%	100%	23,800	
	Department of Environmental Quality	75-99%	75-99%				
x	Ethics Commission	N/A	75-99%	75-99%	75-99%	30,000	6,500
	ETV	100%	75-99%	100%		60,000	20,000
x	Department of Finance & Admin/MMRS	100%	100%	75-99%	75-99%		
x	State Fire Academy	75-99%	100%	75-99%	75-99%	7,000	
x	Forestry Commission	75-99%	75-99%	100%	75-99%	140,000	5,000
x	Funeral Services	50-75%	50-75%	50-75%	50-75%		11,400
	Gaming Commissison		75-99%	75-99%	75-99%	108,000	108,000
	Governor's Office/Mansion		75-99%	100%	75-99%		3,000
x	Grand Gulf Military Monument	N/A	100%	100%	100%	3,200	
x	Department of Health	50-74%	75-99%	75-99%	75-99%	1,016,000	427,000
x	Hudspeth Regional Center	75-99%	75-99%	75-99%	75-99%		
	Department of Human Services	75-99%	75-99%	100%	100%	6,700,000	500,000
	Department of Insurance		75-99%	75-99%	75-99%	80,000	65,000
x	ITS	N/A	75-99%	75-99%	75-99%		
x	Judicial Performance	N/A	100%	100%	100%	12,346	
	Legislative Budget Office			100%	100%		
x	Library Commission	N/A	100%	75-99%	100%	100,000	50,000
	Department of Marine Resources						
x	MARIS	100%	75-99%	75-99%	75-99%	500	500
	Medicaid	75-99%	75-99%	100%	100%	4,500,000	
x	Medical Licensure	100%	100%	75-99%	100%	6,000	-
x	Department of Mental Health	100%	100%	100%	100%		
x	Mississippi State Hospital	N/A		100%	100%	250,000	50,000

The (x) notation indicates agencies responding to the June 1999 survey. Agencies without the (x) notation indicates their responses from previous survey.

	Agency Name	% of Data Interfaces that are Y2K Compliant	% of Agency Data that is Y2K Compliant	%of Mission Critical Hardware Y2K Compliant	%of Mission Critical Software Y2K Compliant	Expenditures To-Date	Expenditures Remaining
	Motor Vehicle Commission	100%	100%	100%	100%		
	MS Veterinary Diagnostic Lab	N/A	75-99%			16,000	15,000
x	Bureau of Narcotics	N/A		75-99%	75-99%	43,500	46,500
	Board of Nursing	100%	100%	100%	100%	40,000	
x	Nursing Home Administrators Board	100%	100%	100%	100%	25	
	Oil and Gas Board	75-99%	100%	100%	100%		
	Pearl River Basin Development District	N/A	75-99%			5,910	
	Pearl River Valley Water Supply District						
	PEER Committee	100%	100%	100%	100%		
x	PERS	100%	75-99%	75-99%	75-99%		
x	State Personnel Board	N/A		100%	75-99%	2,000	6,000
x	Pharmacy Board	N/A	100%	75-99%	75-99%	7,600	
x	State Port Authority at Gulfport	N/A	100%	75-99%	75-99%	64,184	-
x	Public Accountancy Board	100%	100%	100%	100%	-	-
	Department of Public Safety			100%	100%		
x	Public Service Commission	100%	75-99%	75-99%	75-99%	125,000	75,000
	Real Estate Commission	<25%	<25%			3,091	62,000
x	Department of Rehabilitation Services	75-99%	100%	75-99%	75-99%	1,000,000	350,000
x	Secretary of State's Office	75-99%	75-99%	100%	100%		
	Soil and Water Conservation Commission	75-99%	75-99%			11,691	10,950
x	South Mississippi Regional Center	100%	75-99%	100%	100%	30,000	40,000
x	State Aid Road	100%	75-99%	100%	100%	2,657	2,000
	State Tax Commission	75-99%	75-99%	100%	75-99%	822,989	1,806,102
	Supreme Court						
x	Tombigbee River Valley Water Management	100%	100%	100%	100%	10,000	
x	Department of Transportation	100%	75-99%	100%	100%		40,000
	State Treasurer's Office	50-74%	50-74%			48,000	50,000
x	Veterans Affairs Board	50-74%	50-74%	50-74%	50-74%	50,000	150,000
x	Veterans Home Purchase Board	100%	75-99%	75-99%	75-99%	79,152	2,500
	Board of Veterinary Medicine			100%	100%		
	Wildlife, Fisheries and Parks	75-99%	75-99%			10,000	55,000
x	Workers' Compensation	75-99%	100%	100%	100%	50,000	3,000

Source: Department of Information Technology Services

The (x) notation indicates agencies responding to the June 1999 survey. Agencies **without** the (x) notation indicates their responses from previous survey.

APPENDIX B

Appendix B

Information Technology Services Statewide Year 2000 Work Plan
Develop Coordinator Role Description
Select Coordinator
Designate ITS Team
Designate Agency Representatives
Develop Assessment Strategy and Methodology
Develop Legislative/Funding Strategy for FY 98
Process Mainframe Assessment Tool and Services RFP
Process Products and Services General RFP
Develop Year 2000 Web Page
Conduct Awareness Activities
Perform Year 2000 Mainframe Assessment
Choose Mainframe Conversion Pilot
Conduct Mainframe Conversion Pilot
Develop Estimates for FY 99 Budgets
Assist Agencies in Starting Conversion Activities
Review Long-Range Plans and Make Y2K Budget Recommendations
Attend Y2K Government Conferences
Acquire Products to Assist Agencies with Y2K Testing
Perform Legislative/Funding Activities
Assist Agencies with Y2K Procurements
Assist Agencies with Contingency Plans
Assess the Status of State Agencies

Source: Department of Information Technology Services

APPENDIX C

Appendix C

Performance Review of Selected State Agencies Y2K Efforts

Health Department

Based on interviews of Health Department information management system personnel, overall the agency feels very good about its Y2K compliance. Information systems in the district offices were scheduled to be compliant by June 30, 1999. However, Health Department officials said clinic information systems will become Y2K compliant next year (2000), but indicated these systems are not mission-critical.

Other than the state payroll system and accounting systems, which are the Department of Finance and Administration's responsibility, the mission-critical Health Department information system is its Patient Information Management (PIM) system. For the PIM system Health is relying heavily on its vendor for Y2K compliance. While the PIM vendor has guaranteed compliance, Health has made some modifications to original software and must ensure these modifications are reviewed to verify the entire program remains compliant. The Health Department's Director of Administration and Technical Support is confident its PIM system will be Y2K compliant.

The Health Department will conduct its testing phase in the months of June, July and August, not leaving much time for corrective actions if problems are discovered.

According to the Director of Administration and Technical Support, Health has no internal operational contingency plan for its PIM system, except to revert to a manual information system.

Public Employees Retirement System

According to PERS Management Information Services Director, overall the agency has a very high confidence level regarding its Y2K compliance.

Other than the state payroll system, which is the responsibility of the Department of Finance and Administration, the mission-critical PERS information systems are its general ledger system, imaging system and Genesis system (public employee records and retirement benefits program).

According to the Management Information Services Director, the PERS general ledger system is a new product acquired from a reputable vendor and the agency has great confidence it received a Y2K compliant product. Also, the Management Information Services Director has great confidence its

vendor is providing a Y2K compliant imaging system. Under development for four years with Y2K in mind, the Genesis system had been completely installed in May 1999 and PERS has great confidence in this system's Y2K compliance.

To the extent possible, PERS has received vendor certifications for Y2K compliance. However, in order that all its various systems work together, PERS is performing in-house hardware and software activities to test and upgrade its overall network of systems and this work cannot be vendor-verified.

PERS is concerned with its PC software compliance, because it continues to receive updated vendor "patches" or fixes to PC software, each one supposedly certifying the software compliant upon implementation. So, for PC software PERS has effectively received multiple certifications of Y2K compliance, thereby causing some concern.

PERS is planning to test all its mission-critical systems by June 1999.

No internal operational contingency plans have been developed by PERS in the event a mission-critical system fails.

Public Safety Department

The Department of Public Safety is very confident its mission-critical systems are Y2K compliant.

The mission-critical systems for the Public Safety Department are the drivers license system, criminal justice data network, telephone system and communications system. According to Public Safety, the software for the drivers license system and criminal justice data network have been rewritten in the last two years, have been tested, and are Y2K compliant. According to Public Safety, its communication system does not rely on dates, the agency never uses statistical printouts, and therefore the agency has no Y2K concerns in this area. Public Safety has limited concerns about its software vendors.

Public Safety has made a fragmented response to its Y2K project. One division handles the Y2K project for the drivers license system, criminal justice data network and telephone system; another division handles Y2K for the communications system; the Crime Lab is in-charge of its Y2K effort; and the Bureau of Narcotics handles Y2K matters in its area.

Public Safety has some internal operational contingency plans. If the Crime Lab experiences system failure, it plans to revert to operation by hand, which the Crime Lab indicates is feasible.

Otherwise, Public Safety has no internal operational contingency plans. Public Safety's Y2K external operational contingency plans responsible for citizen protection were not examined in this review.

Medicaid Division

The Medicaid Division has identified five mission-critical systems: fee-for-services; PCP managed care; capitated managed care; Children's Health Insurance Program; eligibility/provider interfaces.

Medicaid is extremely confident on its computer hardware compliance, because all its hardware has been replaced, except for its mainframe which Medicaid contracted Y2K compliance with vendor EDS. Medicaid is also very confident regarding its software compliance.

Medicaid does have two client servers that are not Y2K compliant. However, according to Medicaid, these systems are not mission-critical so it does not have major concern in this area.

Medicaid used a method of solving its Y2K problems called "windowing", which actually fools the computer to believe that a four digit date begins with "20" rather than "19". This method is a temporary fix, because a start date must be selected, such as the year 1950. Years after 1950 would be read as 20th century dates and years between 1900 and 1950 would be read as 21st century dates. Temporary in nature, this method of solving Y2K problems requires additional Y2K work in the years ahead and requires all additional software programs added in the future be compliant with this "windowing" of dates.

Medicaid is very confident of its Y2K compliance. However, it does have a internal operational contingency plan in the unexpected and unlikely event information systems are down more than one week. The plan calls for the Division simply to continue paying its providers that submit claims. Payments to each provider would be at the average rate Medicaid had previously paid the provider. This plan will allow Medicaid to continue paying providers, even if its information systems are nonoperational.

Finance and Administration Department

The Finance and Administration Department has two mission-critical systems: Statewide Automated Accounting System (SAAS) and Statewide Payroll and Human Resource System (SPAHRS).

Finance and Administration is very confident of Y2K compliance for SAAS. Testing of SAAS was successful, but must be tested again when ITS completes work on its mainframe computer to ensure Y2K compliance with this important interdependency with the state's mainframe computer. In addition, the Y2K compliance of SAAS is dependent on the Treasury Department's Y2K compliance and, therefore, Finance and Administration is working with Treasury to help ensure its compliance.

Finance and Administration is also very confident about the Y2K compliance of its human resources application of SPAHRS. All Y2K work is completed for human resources application and final testing was ongoing in June 1999. The payroll application of SPAHRS was designed to be Y2K

compliant, but some work remains in this area. According to DFA, the payroll application was approximately 85% compliant in May 1999, will be 90% compliant by July 1999 and is on schedule for full compliance this year. Finance and Administration is also very confident about Y2K compliance of the payroll application.

Due to the numerous interdependencies between Finance and Administration and other state agencies concerning its information systems and due to the lack of any coordinated statewide Y2K effort, DFA assumed the role of working with other interconnected state agencies impacting DFA and its ability to become Y2K compliant. The other state agencies affected by these interdependencies are: Treasury Department; Tax Commission; ITS; and State Personnel Board.

Finance and Administration has no internal operational contingency plans. All DFA efforts are involved with its own Y2K compliance and those state agencies with critical interdependencies. In the very unlikely event of information system failure, DFA believes it could type some of the accounts payable checks, but could not complete the state payroll.

Human Services Department

Human Services has 7 mission-critical systems:

- Food Stamps;
- Temporary Assistance for Needy Families (TANF);
- Child Support Enforcement;
- Medicaid Eligibility;
- Child Care;
- Child Welfare;
- Jobs Automated Work Systems (JAWS).

An outside consultant, SCB Technologies, was contracted by Human Services for $5.5 million to help with its Y2K mainframe project. Human Services also used 25 of its own personnel at the peak of its Y2K mainframe project.

In addition to its mainframe project, Human Services has 32 other small information systems (personal computers, laser printers, elevators and other equipment) that are not considered mission-critical. These non-mission-critical systems are being addressed by 10 DHS employees and some consultants.

DHS has a very high confidence level the agency will be Y2K compliant on mission-critical systems. Much reliance is being placed on its outside consultant for compliance. Extensive testing has been performed by the consultant and by internal employees to ensure compliance. The final test is scheduled for June, which will allow six months in the event any failure occurs.

For each of its mission-critical systems, Human Services has received vendor certification of Y2K compliance.

Regarding internal operational contingency plans, if any mission-critical systems fail the internal DHS technical staff and the vendor will correct the problem. DHS has a contract with the vendor for assistance in the event of any failure. Since internal DHS staff worked with the consultant, DHS is confident the agency's staff can correct any potential problems. Specific internal operational contingency plans provide:

- if a field office loses electric power, that office will move to another field office location having power;
- welfare checks will be run early (before December 31) to provide a time cushion;
- food stamp data will be sent to DHS's vendor by armored truck.

Mississippi Emergency Management Agency

The Mississippi Emergency Management Agency (MEMA) has four mission-critical information systems:

- SAAS
- Communications systems
- Telephone systems
- Personal computers

While MEMA is placing much reliance on others for its Y2K compliance, it is confident that the agency's information systems will operate correctly in the year 2000.

MEMA is relying on the Finance and Administration Department for Y2K compliance of SAAS.

Reliance is placed on the telephone company by MEMA for its Y2K compliance on telephone systems.

MEMA's primary communications system has been certified Y2K compliant by letter from manufacturer. This system will be tested before the end of the year. For its backup communications system, MEMA is unsure of its Y2K compliance, but it is not considered mission-critical.

Personal computers are considered mission-critical by MEMA and testing will occur through July 1999 and further testing will be performed in November 1999. Regarding its personal computer software: while MEMA has received certifications from its software vendor indicating Y2K compliance, the agency has some concerns whether the software will in fact operate in 2000. MEMA has received vendor updates to its personal computer software called "patches". These patches are received from the vendor with the understanding that installation will make the user Y2K compliant.

MEMA personnel continually research the Internet and have found that new versions of these patches continue to be issued by the vendor, each indicating installation will make the user Y2K compliant. Receipt of each new patch requires extensive time by MEMA to install software updates in all personal computers. Based on these circumstances, MEMA has some concern regarding its PC software.

Through early April 1999, MEMA had no specific disaster recovery plans regarding Y2K. The agency planned to use its general disaster plans for any Y2K disruptions. MEMA received a supplement to its Federal Response Plan on April 22, 1999, titled *Federal Response Plan Operations Supplement Year 2000 (Y2K) Conversion*. The transmittal to this supplement states, in part:

> *"The Federal Response Plan (FRP) will be the basis for providing Federal assistance to State and local governments that are overwhelmed by the consequences of computer malfunctions during the rollover from 1999 to the year 2000. While no one can accurately predict exactly what might happen, the potential exists for numerous, small Y2K-related disruptions to occur simultaneously across the country. As a prudent planning measure, we are developing an FRP Operations Supplement to address any unique Y2K emergency response requirements.*
>
> *The supplement will assess the Y2K situation and possible impacts; set forth planning assumptions; describe Federal Y2K monitoring operations and early warning systems; outline a modified information and planning function to ensure expeditious information collection, analysis, and dissemination; summarize the emergency declaration process for Y2K; lay out direction and control protocols; and identify any additional resource needs."*

Federal and state government are preparing for possible Y2K-related disruptions.

Corrections Department

The Department of Corrections currently has nine mission-critical information systems:

- Statewide systems (SAAS, MERLIN, and SPAHRS)
- Inmate tracking system
- Telephone system
- Personal computers
- Prison security systems
- Food services
- Electric power
- Prison canteen

Corrections is relying on the Finance and Administration Department for Y2K compliance of

statewide systems, which concern accounting, human resource and payroll functions. According to Corrections, the inmate tracking system has been tested and is Y2K compliant. Corrections contracted with consultant, Lucent Technologies, for an upgrade of its telephone system and the upgrade is on track for compliance. All personal computers are systematically being tested and are on track for compliance. The prison security systems will be tested, however the systems are not considered date sensitive and also have manual overrides. The food services system is on track for compliance. For electric power, Corrections is relying on the utility companies. The prison canteen system, which is a program making available certain goods and other items of value for purchase by inmates, is on track for compliance.

Corrections has a very high confidence level its information systems will be Y2K compliant and has no areas of concern.

Except for the security system which can be manually operated, Corrections has no alternative plans if mission-critical systems fail. All efforts by Corrections are geared toward ensuring information systems are compliant.

Electric generators are located at each prison, but are not connected to management information system (MIS) operations. Prison MIS systems are connected with the Jackson MIS system. While the Jackson location does have a two-hour battery backup system, it does not have a generator. So, if a power failure occurs, MIS operations will operate for only two hours.

Education Department

The Department of Education has four mission-critical information systems:

- Minimum Foundation Program system
- Child Nutrition Program Reimbursement Fund
- Teacher licensure/certification system
- Field data collection systems

The Minimum Foundation Program distributes approximately $80 million per month to school districts. According to Education, testing is ongoing but the Minimum Foundation Program system Y2K work is complete and the system is compliant. A consultant hired to assist Education in its Y2K compliance of the Child Nutrition Program Reimbursement Fund continues its work and expects project completion by July 1, 1999.

Education's only concern regarding its Y2K compliance is in the area of PC software. The agency relies exclusively on one vendor for its PC software, and the vendor continues to provide "patches" represented by the vendor to make the software Y2K compliant. With each patch the vendor represents that installation of the latest software update will make the software productY2K compliant. Education's concern results from the continuation of new patches from the vendor.

Education has some concern whether its PC software will be Y2K compliant.

Except for its one PC software vendor, Education requires no vendor certification on mission-critical systems, because these systems were produced in-house.

Education has the following Y2K internal operational contingency plan:

- The Minimum Foundation Program distributes approximately $80 million per month to school districts. The internal operational contingency plan for the Minimum Foundation Program calls for identifying previous school district allotment amounts and establishing base allotments. If the bank interface fails, rather than electronically transferring funds to all school districts, Education will revert to simply issuing paper warrants.

Education has no internal operational contingency plans for the Child Nutrition Program Reimbursement Fund. The field data collection systems have already performed their function for the current fiscal year, and if these systems fail due to Y2K, Education will not be affected in carrying out its responsibilities

Education has assisted school districts in their Y2K efforts by mailing on three occasions material to make school districts aware of this problem. Education also maintains a web site with Y2K information and has made school districts aware of this resource. Also, Education is attempting to locate funding for a consultant that would provide in-field training to districts on Y2K compliance issues.

Transportation Department

The Department of Transportation addressed the Y2K problem in a decentralized manner. Transportation's 29 individual divisions and sections assessed their own Y2K situations, created their own Y2K master plans, and managed their own Y2K efforts.

In April 1999, Transportation designated one overall agency Y2K coordinator, when individual divisional and sectional assessments and plans were centralized. The Transportation Y2K coordinator maintains all the agency's Y2K plans and communicates Y2K information to the separate divisions and sections; however, each of the 29 individual divisions and sections continues to manage its ownY2K effort in a decentralized manner.

The Department of Transportation is confident its systems will be Y2K compliant by year end, because the agency said it has acquired a lot of new equipment over the past several years and extensive testing will be done beginning in June or July. Transportation's testing in June and July leaves a short period of time to correct any problems discovered.

While Transportation said internal operational contingency plans for its financial system are being developed, the agency could not provide any details of the plans. Regarding internal operational contingency plans of the 29 separate divisions and sections, each of these separate areas is developing its own internal operational contingency plan. As a whole, Transportation did not know where it stood regarding Y2K internal operational contingency plans as of June 3, 1999.

Regarding vendor certification of hardware and software, each of the 29 separate divisions and sections is in charge of its own vendor certification. As a whole, Transportation did not know where it stood concerning vendor certification of hardware and software as of June 3, 1999.

Tax Commission

The State Tax Commission identified six mission-critical information systems:

- Motor Vehicle Title Network
- Alcoholic Beverage Control
- State Tax Automated Revenue System (STARS)
- Deposit, Remittance, & Data Capture (DRDC) system
- Legacy Tax Applications
- Data Entry

The Tax Commission contracted a consultant, SCB Technologies, to assist the agency in its Y2K compliance project. In addition, approximately 15 to 20 Tax Commission employees have been involved in the Y2K project. The Manager of the Tax Commission's Bureau of Information Services is very confident that its information systems will be Y2K compliant.

For the Motor Vehicle Title Network, the Tax Commission said it has tested and internally certified this system year 2000 compliant as of June 30, 1998.

The Tax Commission is completely replacing the Alcoholic Beverage Control information system with an updated, enhanced year 2000 compliant system and is scheduled for completion August 12, 1999.

Regarding its STARS information system, on May 21, 1999, the Tax Commission issued its *Year 2000 Readiness Disclosure Update*, which states:

> *"The client-server Withholding Tax implementation, although not in compliance with the State's functional specifications, is Y2K compliant. Due to the termination of the contract for The State Tax Automated Revenue System (STARS), the Individual Income Tax (IIT) legacy system is being renovated for compliance, with a planned reintegration of October 31, 1999, well in advance of system impact."*

For its Deposit, Remittance, & Data Capture (DRDC) information system, the Tax Commission said this system will become Y2K compliant during a modernization effort underway and is on schedule for completion before year end.

For its Legacy Tax Application information systems, the Tax Commission said that all 26 applications in this system are on schedule for Y2K compliance by year end. Except for the income tax application, the Tax Commission said all other applications were on schedule for Y2K compliance by June 30th. For the income tax application, the scheduled completion date is September or October 1999.

For its Data Entry environment, the Tax Commission stated in its May 21, 1999, *Year 2000 Readiness Disclosure Update:*

> *"MSTC has completed replacement of this non-compliant environment with a newer, Year 2000 certified UNIX-based platform, as of December 31, 1998."*

The Tax Commission has concentrated all efforts on making its information systems Y2K compliant, and has no internal operational contingency plans in the very unlikely event one or more of its mission-critical information systems fail.

According to the Tax Commission, for all possible cases it has received vendor certifications for Y2K compliance of agency computer hardware and software.

Treasury Department

The Treasury Department identified two mission-critical information systems:

- General Ledger/Warrant Processing System
- Three Data Servers

Treasury contracted a consultant to assist the agency in its Y2K compliance project.

For the general ledger/warrant processing system, Treasury has completed its work and the agency says this system is Y2K compliant. For the three data servers the Y2K work is ongoing and scheduled for completion in September. A full agency system test will be performed at the end of September. Treasury is completely confident its mission-critical information systems will be Y2K compliant.

Treasury has no Y2K internal operational contingency plans for its mission-critical information systems. However, the agency does have internal operational contingency plans related to major vendors. If Treasury is unable to receive and transmit banking files over the Internet, banking files

on data tapes will be hand-delivered from banks and to the state computer center at ITS.

Treasury has received Y2K vendor certifications for its mission-critical information systems.

While Treasury is completely confident its mission-critical information systems will properly function in the year 2000, if those systems fail, Treasury would be unable to receive funds and would be unable to distribute funds to state agencies.

Agriculture Aviation Board

On a state agency survey request the Agriculture Aviation Board reported in January 1999 to Information Technology Services less than 25% Y2K compliance, because at the time the Board's only computer was not Y2K compliant. Since that time the Board received authorization and transferred funds from other budget categories to its equipment budget and purchased a new computer. The Board has received certification from the manufacturer the computer is Y2K compliant.

Ethics Commission

On a state agency survey request the Ethics Commission reported in January 1999 to Information Technology Services a Y2K compliance rate from 50-74%.

The Ethics Commission adopted a strategy of purchasing new Y2K compliant hardware and software. However, at this time the Ethics Commission budget is very tight and the Commission is unsure whether all the necessary hardware and software can be purchased and installed by year end.

In the hardware area, Ethics believes it will be Y2K compliant, but the existing server is the main concern. If funds are available, the Commission will purchase a new server in 1999. If the Commission cannot upgrade the server this year, it is less confident of the Commission's Y2K compliance.

In the software area, the Commission is very confident of Y2K compliance. The Ethics Commission will purchase all new software in 1999.

The Ethics Commission has no internal operational contingency plans, except to operate by hand inputting date sensitive information. The Ethics Commission believes this method of operation would be much less efficient.

Narcotics Bureau

On a state agency survey request the Narcotics Bureau reported in January 1999 to Information Technology Services a Y2K compliance rate of less than 25%.

The Narcotics Bureau has one mission-critical information system: its local area network. The Bureau is in the process of replacing a portion of its PC's and will replace the remaining PC's after July 1st, if funding is available. Additionally, the Bureau has already replaced two network servers and will replace the remaining two servers after July 1st, if funding is available.

In May 1999, the Bureau's information system was 60-75% compliant. Testing will occur in October and the Bureau is confident of Y2K compliance by year end.

Regarding internal operational contingency plans, in case of system failure the Bureau plans to bypass its network servers using a modem allowing the Bureau to transmit payroll and accounting data.

The Narcotics Bureau has no other internal operational contingency plans.

Real Estate Commission

On a state agency survey request the Real Estate Commission reported in January 1999 to Information Technology Services a compliance rate of less than 25%, because the Commission had a server and several PC's that could not be made Y2K compliant and sufficient funding was not available.

The Real Estate Commission received a special $40,000 legislative appropriation, expects to order the necessary computer hardware by June and expects to be Y2K compliant by the year end. The Commission has been working closely with ITS in its hardware and software efforts and feels very confident of meeting the year end deadline.

Public Service Commission

The Public Service Commission (PSC) regulates approximately 1200 public utilities which fall in one of four categories: water; sewer; electric power; and telecommunications. There are some water and sewer utilities and cellular telecommunication companies that are not regulated by PSC.

Based on its interaction with public utilities, the PSC strongly believes that most utilities including all the larger utilities are Y2K compliant. Reasons the PSC has such strong belief in Y2K compliance of larger utilities are:

- larger utilities are regulated by federal agencies (SEC, FCC) and by other regulatory bodies (North American Electric Reliability Council) thereby receiving much Y2K compliance oversight;

- in interaction with the PSC, larger utilities have expressed a very high degree confidence in Y2K compliance; and

- larger utilities have much larger responsibilities (multi-state) than just Mississippi.

The PSC pointed out that electric power utilities are dependent on the Y2K compliance of the telecommunications utilities, because electric power switching stations are regulated remotely over telephone lines and therefore electric power utilities are inter-dependent on the telecommunication utilities for their Y2K compliance.

The PSC is more concerned with the water and sewer public utilities, because they do not have federal oversight. Water and sewer public utilities are also interdependent with the electric power utilities for their operation and therefore their Y2K compliance.

Desiring documented evidence supporting its belief in Y2K compliance, the PSC conducted a survey in March 1999 of the 1200 utilities it regulates. Of the 1200 surveys mailed by the PSC, 628 or 52% responded. According to the PSC this response rate is typical because many of these utilities are: (1) small water and sewer districts that do not consider their entities to be public utilities and therefore not subject to PSC regulation; or (2) among about 300 telecommunications resellers that do not own facilities or equipment and do not conduct business within the state. Of the 628 public utilities responding to the PSC survey, 421 or 67% indicated Y2K compliance and the remaining 207 or 33% anticipated Y2K compliance by year end. The PSC believes this survey supports its strong belief that larger utilities are Y2K compliant.

APPENDIX D

Appendix D

NORTH CAROLINA Y2K PERFORMANCE AUDIT SURVEY OF OTHER STATES												
	North Carolina	Alabama	Arizona	Arkansas	Florida	Georgia	Kentucky	Maryland	Mississippi	South Carolina	Tennessee	Texas
Agency/ Council/ Commission:	Project Office within Dept. of Commerce-Information Technology Services/Y2K Steering Committee	None	Government Information Technology agency	No official designee/ Each agency has its own director	Governor's Office	Statewide Y2K Project Management Office directed by the Chief Information Office	Chief Information Officer	Maryland Department of Budget and Management, Y2K Oversight Committee of the Governor's Information Technology Board	Department of Information Technology Services	Office of Information Resources	Office for Information Resources	Department of Information Resources
Employees:	24 full-time (10 state and 14 consultants)	4 full-time	7 full-time	30+ full-time	6.5 full-time	13 full-time (3 state and 10 consultants)	3 full-time	1 full-time	1 full-time	3 full-time	1 full-time	8 full-time
Do vendors provide management services?	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No	No	No
To what extent is project oversight provided by vendors?	26-50%	N/A	N/A	26-50%	0-25%	76-100%	0-25%	76-100%	N/A	N/A	N/A	N/A
What is the status of Y2K full-time positions?	Permanent	Permanent	Permanent, Temporary, and Time-Limited	Permanent	Time-Limited	Time-Limited	Temporary	Permanent	Permanent	Permanent	Permanent	Time-Limited
What will be the status of employees/ positions at the end of Y2K project?	Reassigned	Eliminated Reassigned	Position Reassigned	Position Reassigned	Eliminated Terminated	Position Reassigned	Eliminated, Reassigned	Position Reassigned	Position Reassigned	Position Reassigned	Position Reassigned	Position Reassigned
Does your state have a list of approved vendors?	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
How many vendor contracts are approved?	52 (16 conversion, 36 convenience)	N/A	12-15	11	Do not track	47	8	24	19	6	5	39

NORTH CAROLINA Y2K PERFORMANCE AUDIT SURVEY OF OTHER STATES												
	North Carolina	Alabama	Arizona	Arkansas	Florida	Georgia	Kentucky	Maryland	Mississippi	South Carolina	Tennessee	Texas
How many vendor contracts are currently in use?	?	N/A	5-6	7	Do not track	14	6	10	3	1	5	10-15
What type of services provided by vendors to states?	Management/ Oversight, Awareness, Assessment/ System Inventory, Conversion, Testing, and Implementation	N/A	Assessment/ System Inventory, Conversion, and Testing	Conversion, Testing, and Implementation	Management/ Oversight, Assessment/ System Inventory, Conversion, Testing, and Implementation	Management/ Oversight, Awareness, Assessment/ System Inventory, Conversion, Testing, and Implementation	Management/ Oversight, Awareness, Assessment/ System Inventory, Conversion, Testing, and Implementation	Management/ Oversight, Assessment/ System Inventory, Conversion, Testing, and Implementation	Assessment/ System Inventory, Conversion, Testing, and Implementation	Assessment/ System Inventory, Conversion, Testing, and Implementation	Conversion Testing, and Implementation	Management/ Oversight, Awareness, Assessment/ System Inventory, Conversion, Testing, and Implementation
How are agencies acquiring vendor services?	Special conversion contract and traditional contracting procedures	Traditional procedures and vendor contact	Traditional procedures	Traditional procedures	Traditional procedures	Traditional procedures	Traditional procedures	Traditional procedures and contract (Y2K)	Traditional procedures	Traditional procedures	Traditional procedures	Agency contact
Does state have cost estimate?	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
What is the current estimate?	$124 million	$100,000,000	$116,000,000	$35,000,000	$75,000,000-$90,000,000	N/A	$35,000,000	$100,000,000	$19,000,000	$31,200,000	$15,000,000	$238,200,000
What factors are included in conversion cost estimates?	Hardware, software, labor, replacement facilities and equipment for conversion and testing	Hardware, software, interface, embedded chips, labor, replacement, facilities, and equipment for conversion and testing	Hardware, software, interface, embedded chips, labor, replacement, facilities, and equipment for conversion and testing	Hardware, software, interface, embedded chips, labor, replacement, facilities, and equipment for conversion and testing	Hardware, software, interface, labor, replacement, and equipment for conversion and testing	N/A	Hardware, software, interface, embedded chips, labor, replacement, and facilities	Hardware, software, interface, labor, and replacement	Hardware, software, interface, labor, and replacement	Software, interface, labor, and equipment for conversion and testing	Software, interface, labor, and replacement	Hardware, software, interface, labor, replacement, and equipment for conversion and testing
What agencies are included in the conversion cost estimate?	Executive, community colleges, universities	Executive, Legislative, and Judicial	Executive	Executive, Legislative, and Judicial	Executive and Judicial	N/A	Executive	Executive and Universities	Executive, Universities, Community Colleges, and Legislative	Executive, Universities, Legislative, and Judicial	Executive, Universities, Community Colleges, Legislative, and Judicial	Executive, Universities, and Judicial

NORTH CAROLINA Y2K PERFORMANCE AUDIT SURVEY OF OTHER STATES												
	North Carolina	Alabama	Arizona	Arkansas	Florida	Georgia	Kentucky	Maryland	Mississippi	South Carolina	Tennessee	Texas
How are conversion efforts funded?	Statewide Y2K Special Fund, agencies' existing appropriations	Agencies' existing appropriations.	Appropriations to oversight administration special funds, Agencies' existing appropriations, and financed	Appropriations to oversight administration special funds	Y2K appropriations to agencies, Appropriations to oversight administration special funds, Agencies' existing appropriations, and Federal matching grant funds	Y2K appropriations to agencies	Appropriations to oversight administration special funds and Agencies' existing appropriations	Y2K appropriations to agencies, Appropriations to oversight administration special funds, and Agencies' existing appropriations	Agencies' existing appropriations	Agencies' existing appropriations	Appropriations to oversight administration special funds and Agencies' existing appropriations	Appropriations to oversight administration special funds
Do unused Y2K funds revert to the general fund?	Yes	Yes	Yes	Yes	Yes	Don't Know	No	Yes	Yes	No	No	Yes
Who has the responsibility for verification of system compliance?	Agency testing and independent validation and verification overseen by State Auditor	None	Oversight team audits and vendor verification	Oversight team audits and agency testing	Agency testing and vendor verification	Agency testing and vendor verification	Oversight team audits, agency testing, vendor verification, and other code evaluation	Oversight team audits, agency testing, and vendor verification	None	Agency testing	Agency testing and independent testing planned	None
What type of status reports does your state require of agencies?	Monthly status reports of costs and hours worked	Monthly progress reports	Mission critical systems reports	Monthly	General Progress, Monthly, Beginning in October 1998 all are quarterly	Progress status reports (% remediation completed, Cost of remediation efforts)	Quarterly status reports from Cabinet Secretaries to Chief Information Officer	Graphical Summary Chart, Midlevel feeders to all Cabinet level agencies	None at this time (If legislation passes reporting begins 1/99)	Updates to last quarterly report	Updated monthly work-plan	Monthly and quarterly progress and expenditure reports
How often must these agency reports be submitted?	Monthly	Monthly	Monthly	Monthly	Monthly and Quarterly	Bi-Weekly	Quarterly	Monthly	N/A	Quarterly	Monthly	Monthly and Quarterly
To whom are these reports submitted?	Project Office oversight team and presented to Y2K Steering Committee	Oversight team, Legislative agency, Governor's office, and Finance office	Technology agency	Technology agency	Oversight team	Technology agency, project oversight team, and Governor's Office	Technology agency	Oversight team	N/A	Technology agency, Legislative agency, and the Governor's office	Oversight team	Oversight team and Legislative agency
How are reports verfied?	Recalculation of percentage completion	None	Audits	None	3rd Party	3rd party	Testing and 3rd party	Audits and 3rd party	None	None	None	None

NORTH CAROLINA Y2K PERFORMANCE AUDIT SURVEY OF OTHER STATES												
	North Carolina	Alabama	Arizona	Arkansas	Florida	Georgia	Kentucky	Maryland	Mississippi	South Carolina	Tennessee	Texas
What are the standards/ requirements for establishing contingency plans?	N/A	All systems	System criticality	System criticality and system failure dates	10% remediation lapse	Remedia-tion dead-line of 3/99	System criticality and system failure dates	System criticality	Federal requirements	System criticality	N/A	Agency type, system criticality, and system failure dates
How are vendor payments administer-ed?	Normal channels and through Project Office oversight team for Statewide Y2K Special Funds	Normal channels	Normal channels	Normal channels	Normal channels	Normal channels	Normal channels and project oversight team	Normal channels and project oversight team	Normal channels	Normal channels	Normal channels and project oversight team	Normal channels and project oversight team
What are the beginning date(s) for Y2K project components?	1996 - awareness 1997 - assessment, conversion 1998 - testing, implemen-tation	1996 for all components	1995 - Awareness, Varies for all other components	1994 - Awareness, 1995 - Assessment, 1996- Conversion and Testing, 1998 - Imple-mentation	1996 - Awareness, 1997 - Assess-ment and Conversion, 1998 - Testing and Implementa-tion	1996 - Awareness and Assessment varies for all other com-ponents	1994 - Awareness, 1995 - Assessment 1996 - Con-version, Testing, and Imple-mentation	1995 - Awareness, 1996 - Assess-ment, 1997 - Conversion, Testing, and Implementa-tion	1996 - Awareness and Assess-ment, 1997 - Conversion and Testing, 1998 - Implementa-tion	Varies for all components	1996 for all components	1996 - Awareness, 1997 - Assessment and Conversion, 1998 Testing and Implementa-tion
Are there established deadlines for remediation components?	12/31/98 goal for conversion	No for all components	No for Awareness, Assessment, Conversion, and Testing. Yes for Implementa-tion	No for Awareness and Assessment. Yes for Conversion, Testing, and Implementa-tion	Yes for all components	Yes for all components	No for Awareness, Assessment Conversion, and Testing. Yes for Implementa-tion	Yes for all components	Yes for Awareness and Assessment. No for Conversion, Testing, and Implementa-tion	Yes for all components for all mission-critical systems	No for Awareness and Assessment. Yes for Conversion, Testing, and Implementa-tion	No for Awareness and Assessment. Yes for Conversion, Testing, and Implementa-tion
Have states passed special legislation regarding Y2K?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
What types of special Y2K legislation did states pass?	Special Funding	Status reports	Special funding and salary incentives	Special funding	Liability immunity and special Goveror's authority for resource transfer	Liability immunity and special funding	Special funding	N/A	N/A	N/A	Special funding	Special funding and salary incentives
Are vendors subject to unlimited liability?	No	No	N/A	No	Yes	Yes	No	No	Yes	No	No	No

NORTH CAROLINA Y2K PERFORMANCE AUDIT SURVEY OF OTHER STATES												
	North Carolina	Alabama	Arizona	Arkansas	Florida	Georgia	Kentucky	Maryland	Mississippi	South Carolina	Tennessee	Texas
What is the level of vendor liability?	Contractual specifications	Contractually shared liability	N/A	N/A	Contract amount or system component value	Liability becomes full respon-sibility of vendor if legislation passes	Varies with warranties	Contract amount or $100,000, whichever is greater	Contract amount	Contract amount	Varies with contract	Contract language

Source: North Carolina Office of the State Auditor+